

New research characterizes pediatric injuries onboard commercial airline flights

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In a first-of-its-kind study, researchers at University Hospitals Rainbow Babies & Children's Hospital (UH Rainbow) found that lap infants may be at greater risk for injury on a commercial airline flight than older children traveling in their own seats or using in-flight restraints.

The study analyzed in-flight medical events (IFMEs) on flights worldwide between January 2009 and January 2014 and found 35 percent of all pediatric in-flight injuries occurred in passengers under the age of 2. The researchers found that the most common mechanism of injury was scalding burns from hot beverages or soups spilled on a child, followed by falls from the seat involving lap infants.

The study, conducted in partnership with Dr. Paulo Alves and Dr. Neil Nerwich of MedAire, an International SOS company, characterizes the incidence of IFMEs affecting children with specific focus on injury-related events.

Through an analysis of 114,222 IFMEs, more than 10 percent involved children (newborn to age 18) and more than three percent involved in-flight injuries. Passengers who sustained in-flight injuries were younger than those involved in other medical events.

"Pediatric medical events on commercial airlines are relatively infrequent given the amount of passenger traffic, however unrestrained children, especially lap infants, are more likely to sustain an in-flight injury particularly during meal service or turbulence," says Alexandre

Rotta, MD, FCCM, Chief, Division of Pediatric Critical Care Medicine at UH Rainbow and the study's senior investigator. Dr. Rotta, who is also Professor of Pediatrics at Case Western Reserve University School of Medicine, says many pediatric in-flight injuries could potentially be prevented by using in-flight child restraints, avoiding aisle seats, and by having lap infants travel in their own designated seat.

"Our data originated from a pool of approximately 80 major airlines worldwide over a four year period - it provides a very significant sample," says Dr. Alves

More than 83 percent of in-flight injuries occurred on international flights covering distances of more than 3,500 miles and lasting longer than 6 hours. The most common types of in-flight injuries involved burns (39.3 percent), contusions (29.5 percent), lacerations (20.5 percent) and closed head injuries (8 percent).

"It is my hope the information we discovered will promote the development of preventative strategies and travel policies to protect the health of all pediatric airplane passengers, especially these most vulnerable infants," says Dr. Rotta.

The study, titled "In-flight Medical Events, Injuries and Deaths Affecting Children During Commercial Aviation Flights," will be presented during the 2016 American Academy of Pediatrics (AAP) National Conference & Exhibition on Monday, Oct. 24, as a platform oral presentation during the Council on Injury, Violence, and Poison Prevention Program.

The study follows the 2014 article "Fatalities Above 30,000 Feet: Characterizing Pediatric Deaths on Commercial Airline Flights Worldwide," published in the October 2014 issue of *Pediatric Critical Care Medicine Journal*, that identified a pattern indicating infants may be

at greater risk for death on a commercial airline flight.

MedAire is the leader for in-flight medical advisory services, and as such delivers indispensable medical advice and assistance when medical situations arise in-flight.

Provided by University Hospitals Rainbow Babies & Children's Hospital

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